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| 10/797,486 | 03/10/2004 | Matthew A. Smith | JK01261 | 3302 |

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| EXAMINER |
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NGUYEN, PHONG H

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| ART UNIT | PAPER NUMBER |
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3724

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09/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/797,486

Applicant(s)

SMITH ET AL.

Examiner

Phong H. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2007.
- 2a) ☒ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) 15,16,20,30,31 and 35-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-13,17-19,21-28 and 32-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The Specification is objected to under 37 CFR 1.71 because it does not define a passive stopping and an active stopping.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the indicator for providing a visual indication of a detection zone in claim 28 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

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pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 18 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is unclear what the passive stopping and the active stopping is. Claim 18 will be rejected as best understood by the Examiner.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by McDaniel et al. (4,070,940), hereinafter McDaniel.

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Regarding claim 1, MacDaniel teaches a power tool, comprising:

a working element (a blade 24) for performing a task on a workpiece;

a light source 41 arranged to project a beam of light adjacent the interface between the working element and the workpiece; and

a detector (46 & 51) configured to detect the presence of a human body part in the beam of light, wherein the detector is communicatively coupled to the power tool so as to stop operation of the working element, if a human body part is detected.

See the Abstract and Fig. 3.

Regarding claim 2, the cutting blade 24 is best seen in Fig. 2.

Regarding claim 3, the infrared source 41 is best seen in Fig. 1.

Regarding claims 4 and 5, a brake 59 is best seen in Fig. 3.

Regarding claim 6, the light source 41 projecting a zone 49 about the working element is best seen in Fig. 1.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 8-13 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gass et al. (US Pub. 2002/0017175), hereinafter Gass, in view of McDaniel et al. (4,070,940), hereinafter McDaniel.

Regarding claim 8, Gass teaches a saw, comprising:

an arbor 1160 for mounting a circular saw blade 1114; and

a detector 22 for detecting the presence of a human body part and being in communication with a brake mechanism 24 for stopping the rotation of the blade when a human body part is detected

See Figs. 1-4.

Gass teaches using capacitance sensor to detect presence of a human body part but not an optical sensor.

McDaniel teaches the use of an optical sensor comprising a light source 41 arranged to project a beam of light, and a detector (46 & 51) configured to detect the presence of a human body part in the beam of light. See the Abstract and Fig. 3

The capacitance sensor and the optical sensor are art recognized equivalence known for sensing human body parts.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use a the optical sensor McDaniel instead of the capacitance sensor of Gass to detect human body parts since it has been held that substituting equivalents known for the same purpose is obvious to one skilled in the art. See MPEP. 2144.06.

Regarding claim 9, McDaniel teaches an infrared light source 41.

Regarding claims 10 and 11, the brake mechanism 24 is best seen in Fig. 1 in Gass.

Regarding claims 12 and 13, the light beams of McDaniel defines a point adjacent the circular saw blade.

Regarding claim 17, the light curtain of McDaniel can detect a human body part in two different locations.

Regarding claim 18, when the light curtain in McDaniel is set farther away from the blade, the detector is considered to be configured to initiate passive stopping, and when the light curtain in McDaniel is set closer to the blade, the detector is considered to be configured to initiate active stopping.

Regarding claim 19, Gass and McDaniel teach the detector being activated when the main tool is activated.

9. Claims 22-28 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gass et al. (6,994,004), hereinafter Gass, in view of McDaniel et al. (4,070,940), hereinafter McDaniel.

Regarding claim 22, Gass teaches a saw, comprising:

a support surface 84 for supporting a workpiece;

an arbor 42 for mounting a circular saw blade 40; and

a detector 22 for detecting the presence of a human body part and being in communication with a brake mechanism 24 for stopping the rotation of the blade when a human body part is detected.

See Figs. 1-4.

Gass teaches using capacitance sensor to detect presence of a human body part but not an optical sensor.

McDaniel teaches the use of an optical sensor comprising a light source 41 arranged to project a beam of light, and a detector (46 & 51) configured to detect the presence of a human body part in the beam of light. See the Abstract and Fig. 3.

The capacitance sensor and the optical sensor are art recognized equivalents known for sensing human body parts.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use the optical sensor of McDaniel instead the capacitance sensor of Gass to detect human body parts since it has been held that substituting equivalents known for the same purpose is obvious to one skilled in the art. See MPEP. 2144.06.

Regarding claim 23, McDaniel teaches an infrared light source 41.

Regarding claims 24 and 25, the brake mechanism 24 is best seen in Fig. 1 in Gass.

Regarding claim 26, the light curtain of McDaniel defines a zone about the circular saw blade.

Regarding claim 27, the light beams of McDaniel defines a point adjacent the circular saw blade.

Regarding claim 28, a luminous area on the surface of the support surface due to the light curtain is a visual indication of a detection zone.

Regarding claim 32, when the light curtain in McDaniel is set farther away from the blade, the detector is considered to be configured to initiate passive stopping, and

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when the light curtain in McDaniel is set closer to the blade, the detector is considered to be configured to initiate active stopping.

Regarding claim 33, Gass and McDaniel teach the detector being activated when the main tool is activated.

Regarding claim 34, McDaniel teaches the proximity device substantially as claimed except for an Indium-Gallium-Arsenic detector. The use of an Indium-Gallium-Arsenic detector for detecting human tissue in the infrared field is well known in the art as admitted by the Applicant.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use an Indium-Gallium-Arsenic detector so that the proximity device can discriminate a human body part and a workpiece.

Response to Arguments

10. Applicant's arguments with respect to claims 1-6, 8-13, 07-19, 22-28 and 32-33 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phong H. Nguyen whose telephone number is 571-272-4510. The examiner can normally be reached on Mon-Fri.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on 571-272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Timothy V. Eley/
Primary Examiner, A.U. 3724

PN: 

August 29, 2007